WHAT IS CLAIMED IS:

1. An article, comprising:

a fuel cell diffusion layer; and

a sulfonic acid moiety covalently bonded to the fuel cell diffusion layer,

wherein the sulfonic acid moiety has the formula RSO_3H, and R is ⁄, an alkyl moiety, an alkenyl moiety, an alkynyl moiety, an aryl moiety, or a heteroaryl moiety.

2. The article of claim 1, wherein R is ⁄.

3. The article of claim 1, wherein R is alkyl substituted with halogen.

4. The article of claim 1, wherein R is aryl substituted with halogen, or an alkyl moiety.

5. The article of claim 1, wherein the fuel cell diffusion layer comprises carbon.

6. The article of claim 5, wherein the fuel cell diffusion layer is in the form of a sheet.

7. The article of claim 1, wherein the fuel cell diffusion layer further comprises a catalyst.

8. The article of claim 7, wherein the catalyst is Pt.

9. The article of claim 7, wherein the fuel cell diffusion layer comprises from about one weight percent to about 50 weight percent of the catalyst.

10. The article of claim 1, wherein an aqueous permeability of the article is greater than the aqueous permeability of the fuel cell diffusion layer.

11. The article of claim 1, wherein the article comprises a proton conducting material.

12. The article of claim 11, wherein the proton conducting material comprises perfluorinated sulfonic acid.

13. The article of claim 1, wherein the article has an initial contact angle with water of less than about 125°.

14. The article of claim 1, wherein the article has an initial contact angle with water that is at least about 15% less than an initial contact angle of water with the diffusion layer.

15. The article of claim 1, wherein the article has an initial contact angle with water that is at least about 30% less than an initial contact angle of water with the diffusion layer.

16. The article of claim 1, wherein the article has an initial contact angle with water that is at least about 40% less than an initial contact angle of water with the diffusion layer.

17. The article of claim 1, wherein the article has an initial contact angle with water that is at least about 20° less than an initial contact angle of water with the diffusion layer.

18. A fuel cell, comprising:

a first fuel cell flow plate;

a second fuel cell flow plate;

an electrolyte between the first and second fuel cell flow plates;

a diffusion layer between the first fuel cell flow plate and the electrolyte; and

a sulfonic acid moiety covalently bonded to the diffusion layer,

wherein the sulfonic acid moiety has the formula RSO_3H, and R is ⁄ , an alkyl moiety, an alkenyl moiety, an alkynyl moiety, an aryl moiety, or a heteroaryl moiety.

19. The fuel cell system of claim 18, wherein the fuel cell is a proton-exchange membrane fuel cell.

20. The fuel cell system of claim 18, wherein the fuel cell is a direct-feed liquid fuel cell.

21. The fuel cell system of claim 18, wherein the fuel cell is a direct alcohol fuel cell.

22. The fuel cell system of claim 18, wherein the fuel cell system is a direct methanol fuel cell system.

23. The fuel cell system of claim 18, wherein the fuel cell system is a direct propanol fuel cell system.

24. A method of making a fuel cell diffusion layer, the method comprising:

covalently bonding a sulfonic acid moiety to the fuel cell diffusion layer,

wherein, the sulfonic acid moiety has the formula RSO_2X, and R is ⁄ , an alkyl moiety, an alkenyl moiety, an alkynyl moiety, an aryl moiety, or a heteroaryl moiety, and X is a halogen.

25. The method of claim 24, wherein the sulfonic acid precursor moiety is formed from chlorosulfonic acid.

26. The method of claim 24, wherein the sulfonic acid precursor moiety is formed from fuming sulfuric acid.

27. The method of claim 24, wherein the sulfonic acid precursor moiety is formed from a sulfonating agent diluted in an organic solvent.

28. The method of claim 24, wherein the sulfonic acid precursor moiety is formed from a sulfonating agent diluted in acetic acid.

29. The method of claim 24, wherein the sulfonic acid precursor moiety is formed from a sulfonating agent that is neat.

30. The method of claim 24, wherein the carbon particles are in the form of a sheet.

31. The method of claim 30, wherein the sheet is a fuel cell diffusion layer.

32. The method of claim 24, wherein the diffusion layer also includes a microporous layer.

33. An article, comprising:

a fuel cell diffusion layer; and

an acidic moiety covalently bonded to the fuel cell diffusion layer,

wherein:

the acidic moiety has the formula R-A;

R is ⁄, an alkyl moiety, an alkenyl moiety, an alkynyl moiety, an aryl moiety, or a heteroaryl moiety; and

A is selected from the group consisting of SO_3H, PO_3H_2, AsO_3H_2, and COOH.